ESDIS Core System (ECS)
Release A
SDPS/CSMS
Critical Design Review (CDR)

WELCOME

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WELCOMING REMARKS AGENDA

- **WHY** are we here?
  - **WHERE** are we?
    - **WHO** are we?
      - **WHAT** are we going to do?
        - **HOW** are we going to get there?
          - **WHEN** are we going to do it?

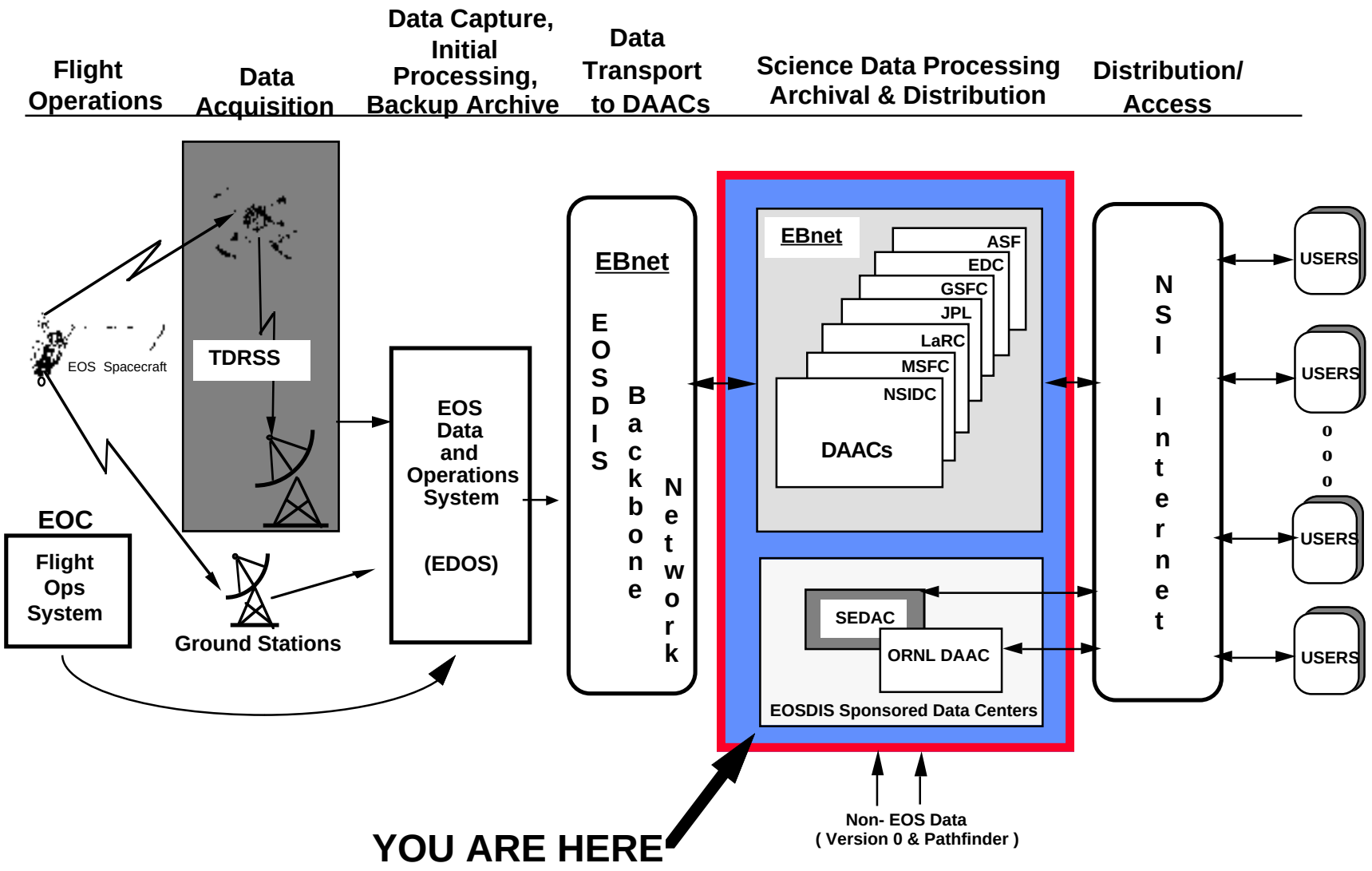
WHY are we here?

CDR Purpose

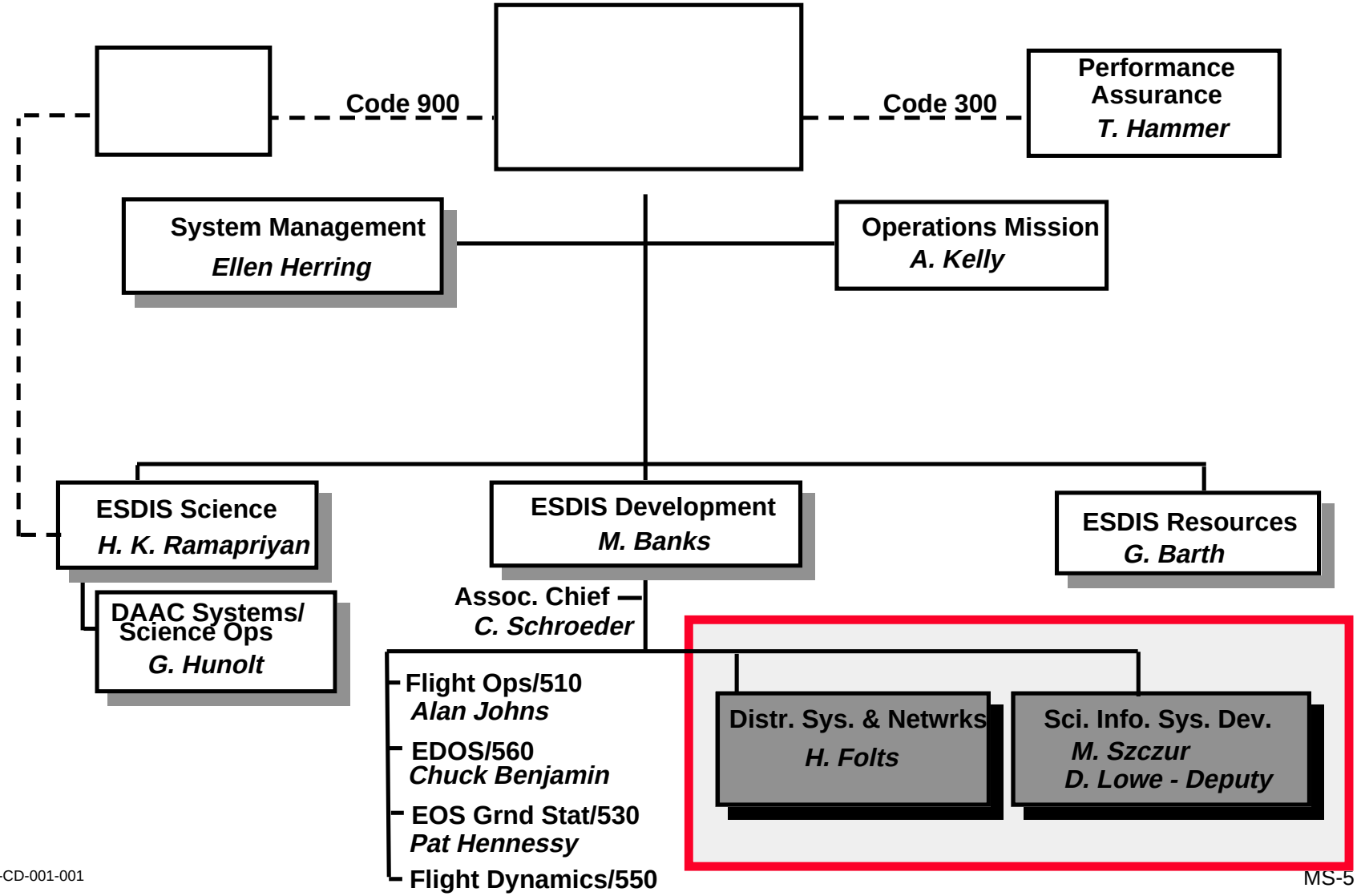
Determine that the ECS Science Data Processing Services (SDPS) and Communication & System Management (CSMS) Services Release A design is ready for the next development phase ...

... coding and implementation

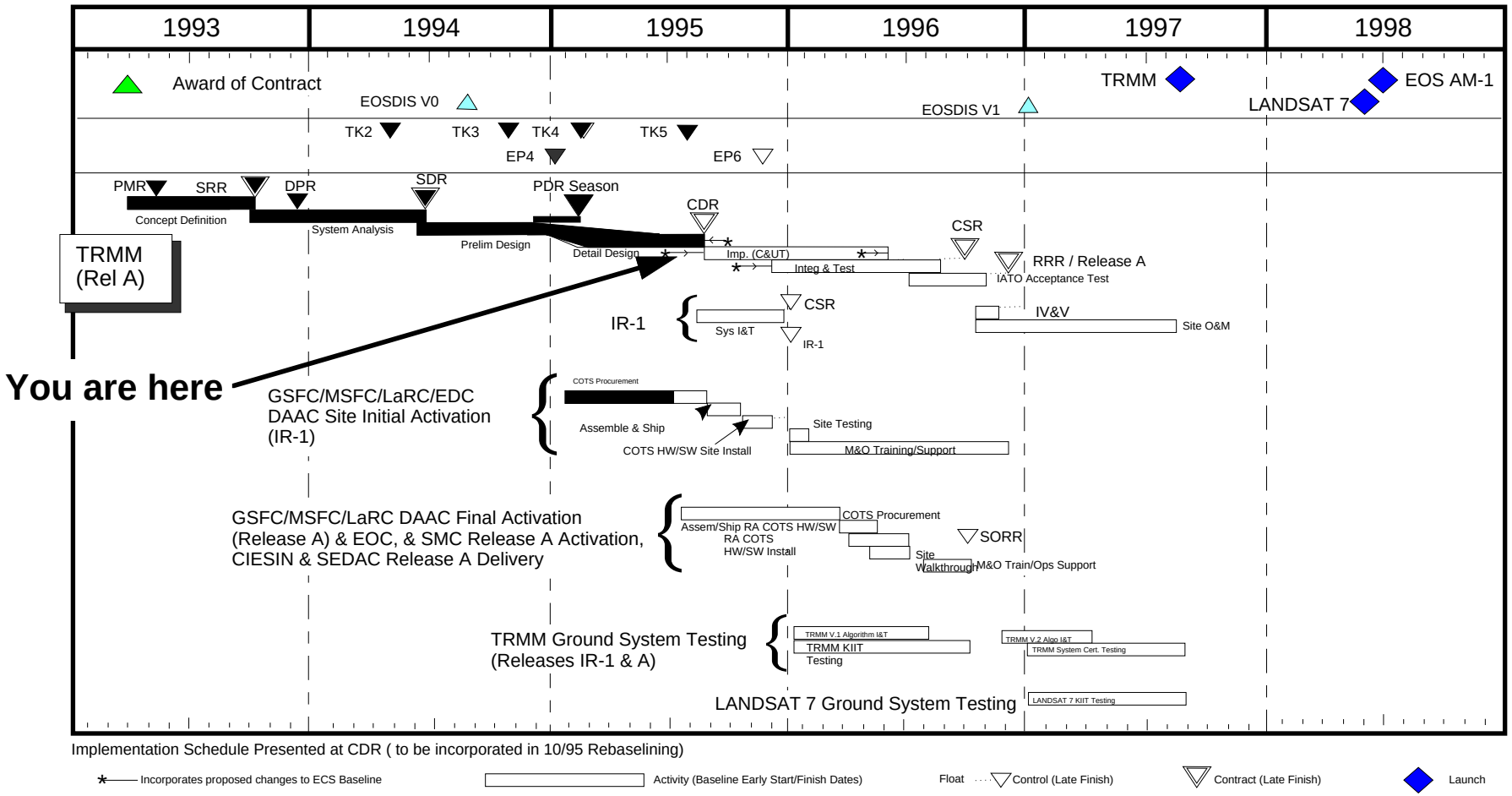
WHERE are we in the ESDIS Functional Architecture?



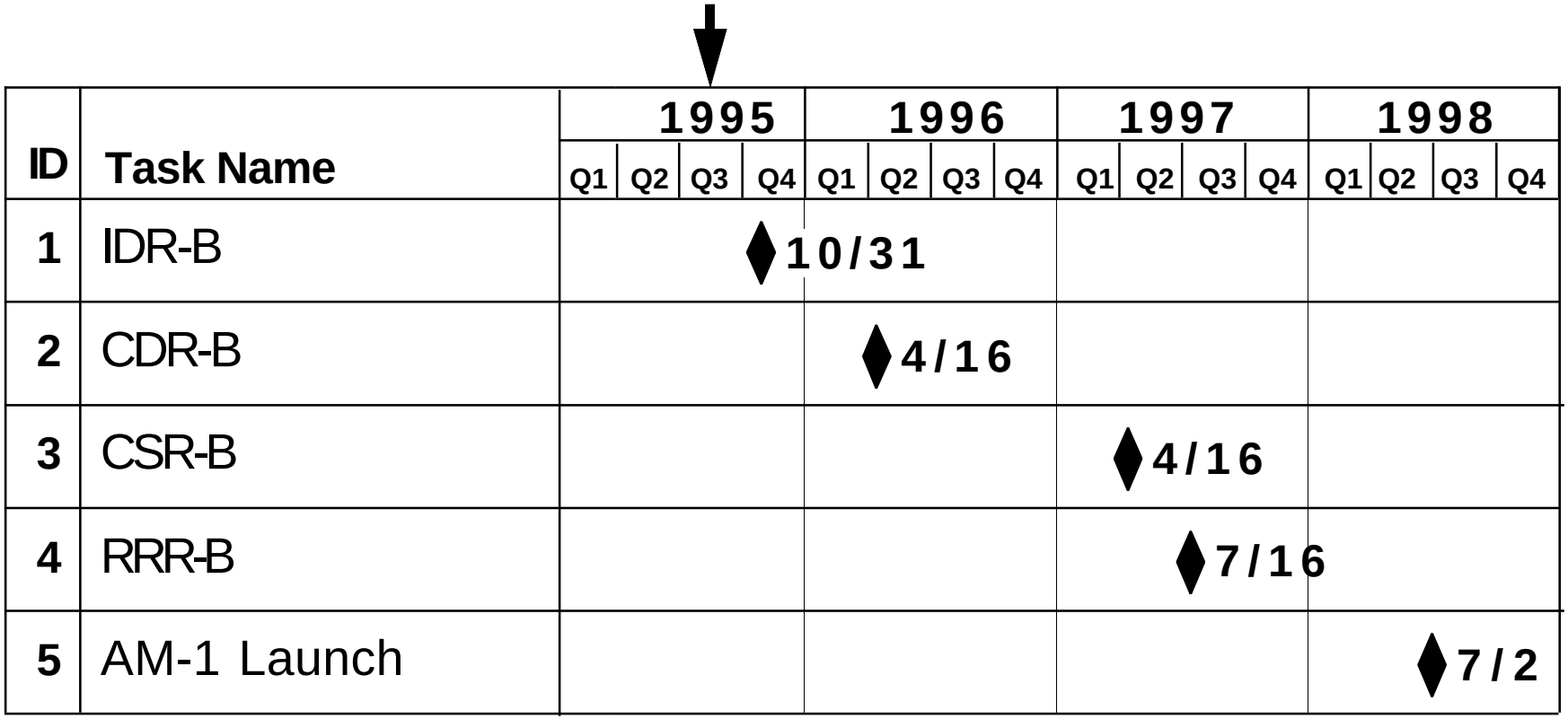
WHERE is the SDPS/CSMS managed in the ESDIS Project Organization?



WHERE are we in the Release A Schedule?
(Projected August Forecast)



Release B Schedule Overview
(for reference only)



WHO is Attending CDR?

Representatives from...

- EOS Advisory Panel
- DAAC managers, scientist, engineers, user working groups
- ECS tirekickers
- Instrument Teams
- ESDIS Project
- NASA HQs
- TRMM, AM-1, Landsat 7
- EDOS, EBNet
- NOAA
- International Partners
- other ECS
- IV&V contractor

WHO is on the CDR Review Board?

PANEL MEMBERS	ESDIS ROLE(s)	DAAC/Center Association
Bill Mack, Co-chair	Office of Flight Assurance	GSFC
Moshe Pniel, Co-chair	ASTER IT, AHWGP, DWG	JPL
Bruce Barkstrom	CERES PI, EOS Advisory Panel, AHWGP, DWG, IWG	LaRC
Tom Butler	Independent, Deputy Division Chief, NASCOM	GSFC
Helen Conover	DAAC Engineer, M&O	MSFC
Bill Emery	EOS Advisory Panel, DWG, Tirekicker	GSFC/UWG
Jim Frew	EOS Advisory Panel	GSFC/UWG
Art Gaylord	Independent, Network Expertise	U. of Mass.
David Glover	EOS Advisory Panel,Tirekicker, IWG	JPL/UWG
Chris Harris	DAAC Engineer, M&O, DWG	LaRC
Chris Lynnes	DAAC Engineer, DWG, M&O	GSFC
John Lyon	Independent, Assistant Director, MO&DSD	GSFC
Lyn Oleson	DAAC Manager, M&O	EDC
Bob Kreider	HQ's MTPE	NASA/HQ
John Wolfgang	Independent, Engineering Directorate	GSFC

WHAT are we going to review?

Scope of Review is Release A:

- Ingest, archive and distribution of TRMM data
- Generation of L1 through L4 data for CERES and LIS
- Support early interface testing (EDOS, Landsat 7 and AM-1)
- Support Science Software Integration and Test
- Support V0 Data Migration (archiving, management, user access)

Release A will be delivered at end of 1996, with operational facilities at the GSFC, LaRC, MSFC DAACs, plus test facilities at the LP-DAAC of the EDC.

WHAT is Detailed Design Success Criteria?

(applied by ESDIS Project during assessment of design)

- **Release A Level 4 Requirements baseline complete**:
  - Requirements under configuration control
  - Requirements traceability between L3 and L4 requirements
  - Requirements traceability to design objects

- **Detailed Design sufficient to begin coding:**
  - Satisfies Release A Level 4 requirements
  - Components allocated to either incremental or formal track, as appropriate
  - Prototypes/Trades resolved; results demonstrable
  - Interfaces defined (intra, inter, external)
  - Process descriptions (either text for simple operations, or PDL for complex functions)
  - Interprocess communication mechanism(s) defined (e.g., DCE RPCs)
  - COTS Products selected/available - training complete or underway
  - Database schema defined
  - Error/exception handling philosophy and design architecture defined

- **Release A Hardware Physical Topology defined**

- **PDR Open Issues**
  - Priority 1 RIDs resolved
  - Action Items defined/tracked

WHAT is Detailed Design Success Criteria? (continued)

(applied by ESDIS Project during assessment of design)

- **Implementation plan complete**:
  - Software sized (LOC estimates; re-use defined)
  - Organized and staffed to do the job
  - Standards/procedures in place
  - Metrics defined for accurate measurement of ...
    ...tracking/assessing implementation progress
    ...measuring code quality
    ...completeness of code
    ...reliability of code
    ...maintainability of code
  - Tools selected and available
  - Risks identified / risk management plan in place
  - Release Migration Plan defined

- **Configuration Management Process and Tools in place**

- **Operations concept defined**

- **System Sizing** (processing, memory, I/O) and Performance characterized
  (based on analysis/modeling/prototyping)

- **Test Plans complete**

- **Realistic Schedules**
  (based on system sizing, staffing, tools, design maturity and test requirements)

WHAT is Review Process?

- Hold questions until end of presentation sections - in many cases, the question will be addressed in a subsequent slide
- The board will capture issues - to keep the review moving, in-depth dialogues will be deferred after initial discussion
- Anyone can write a RID against the CDR material - please submit RIDs via a board member
- Release B issues - will be captured by release B personnel and submitted to the review board at the end of each day
- Comments on documents are welcome - comment forms should be used and comments will be used to improve final versions of formal documents
- End of each day - the board meets for wrapup, issue review and RID categorization
- Friday morning (review board sessions) - the review board will analyze, prioritize issues, resolve issues where possible, assign actions and responsibilities
- Friday afternoon - the board will present a summary including issues to NASA and Hughes management

WHAT are Review Criteria for CDR?

- Does the ECS design reflect a clear understanding of the Release A requirements?
- Is the design sufficient to initiate coding?
  - Satisfies Rel. A requirements
  - Reflects Operations Concept
- Components appropriately allocated to incremental/formal track?
  - Prototypes/trades resolved; results demonstrable? - Interfaces defined?
  - COTS products selected?
  - Error/exception handling design satisfactory?
- Does hardware physical topology meet requirements for Release A?
- Is the Implementation Plan adequate?
  - Software size estimates reasonable?
  - Risks identified / risk management plan in place?
  - Realistic Schedules

Additional Help...where, how, what

- ***Fill-in-the-blank* forms are available to collect questions about**

  – In what documents (and where in the documents) will I find details/further information about _____?

  – How will SDPS handle the following scenario _____ ?

  -- I have another question .....

  _____

WHAT is RID Process?

- Priority 1 RID - implies *something* can not proceed until RID is resolved

- RID Resolution Process
  - RIDs entered into RID database
  - Actionee responsible for response, internal review & approval
  - Internally approved responses entered into RID database by Actionee
  - Sponsor reviews, accepts/rejects
    - » if accepted, sponsor presents to RID Review Team for closure
    - » if rejected, mitigation continues between actionee(s) and sponsor
  - RID Review Team reviews and approves/rejects RID's responses
  - if accepted, RID is marked Closed in RID Database
  - if rejected, mitigation continues

WHAT are Key CDR RID Dates?

- August 25
  - All RIDs against presentations are due
  - Submission via email is preferable, FAX okay (addresses and FAX number on RID forms)
  - All Issue RIDs and RIDs against presentations will be entered by RID team into Master RID Database
- August 31
  - Comments to documents are due to Document Manager, Daphne Rodriguez (daphne.rodriguez@ccmail.gsfc.nasa.gov)
  - RID forms not appropriate
- September 29
  - Initial Priority 1 RID responses completed
  - Responses available in RID database for review/closure/ rework

HOW is the Design Presented?

- CDR Design Briefing Goal
  - Minimal Object Oriented Jargon
  - Assume audience familiarity with ECS
  - Build on SDR and PDR design reviews
  - Highlight changes since PDR
  - Identify COTS selections and changes dictated by COTS
  - Relate prototypes/studies to associated risks
  - Provide Overview and Context Setting of SDPS/CSMS in ESDIS
  - Provide Abbreviated Detail Design Overview of each Subsystem
  - Provide Status/Summary of assorted Project Management Topics

- Additional Details
  - Comprehensive Design Documentation
  - Poster Sessions
  - Demonstrations

HOW are Topics Organized?

MONDAY 8/14	Overview and Context Setting	
TUESDAY 8/15	Infrastructure Services	
	Science User (Pull) Services	
WEDNESDAY 8/16	Production (Push) Services	
	Archive Services	
THURSDAY 8/17	HMI Methodology	
	Management Services	
	Hardware Design	Demos
	Project Management	Posters Exhibits
FRIDAY 8/18	Review Panel Working Session	
	Review Panel Summary/Wrapup	

In conclusion...

Common Goal → Success of ESDIS

Focus → Release A

Challenge → Information Presentation